



PATENT
Attorney Docket 056100-5005-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Pierre Broun <i>et al.</i>)	Confirmation No. 7462
)	
Application No. 10/820,202)	Group Art Unit: 1638
)	
Filed: April 8, 2004)	Examiner: Elizabeth F. McElwain, Ph.D.
)	
For: Production of Hydroxylated Fatty Acids)	<u>Date: January 12, 2007</u>
in Genetically Modified Plants)	

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97(b)

Pursuant to 37 C.F.R. § 1.56 and § 1.97(b), Applicants bring to the attention of the Examiner the documents listed on the attached PTO-1449 forms. This Information Disclosure Statement is being filed, to the best of the undersigned's knowledge, before the mailing date of a first Office Action on the merits for the above-referenced application. Accordingly, Applicants do not believe that a fee is due with the filing of this paper.

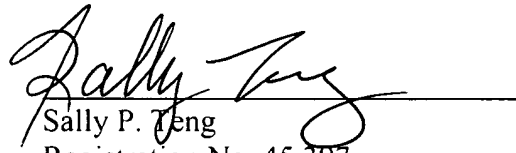
The present application is a continuation application of U.S. Application No. 09/117,921, filed March 4, 1999, which is a U.S. National Phase Application of International Patent Application No. PCT/US1997/02187, filed February 6, 1997, which is a continuation application of U.S. Application No. 08/597,313, filed February 6, 1996, now U.S. Patent No. 6,310,194. Copies of the listed documents were previously submitted or cited by the Examiner in parent Application No. 09/117,921 and in Application No. 08/597,313. Accordingly, no copies of the listed documents are provided herewith. Applicants respectfully request that the Examiner initial and return the Form PTO-1449, indicating that the information has been considered and made of record herein.

This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that each or all of the listed documents are material or constitute "prior art." Applicants reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should one or more of the documents be applied against the claims of the present application.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and § 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0310. This paragraph is intended to be a **constructive petition for extension of time** in accordance with 37 C.F.R. § 1.136(a)(3).

Dated: **January 12, 2007**
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INFORMATION DISCLOSURE CITATION

 Attorney Docket No. **056100-5005-01**

 Application No. **10/820,202**

(Use several sheets if necessary)

PTO Form 1449

 Applicants: **Pierre Broun *et al.***

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 Application Filing Date: **April 8, 2004**

 Group Art Unit: **1638**
U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Sub Class	Filing Date
	5,850,026	12/15/1998	DeBonte <i>et al.</i>	800	281	07/03/1996
	6,372,965	04/16/2002	Lightner <i>et al.</i>	800	298	08/14/1998

FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Sub Class	Translation YES NO	
WO 94/11516 A1	05/26/1994	WIPO				
WO 94/18337 A	01/18/1994	WIPO				
WO 96/10075 A	04/04/1996	WIPO				
WO 97/21340 A	06/19/1997	WIPO				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Altschul <i>et al.</i> , "Basic local alignment search tool," J. Mol. Biol., 215:403-410 (1990).
	Arondel <i>et al.</i> , "Map-based cloning of a gene controlling omega-3 fatty acid desaturation in Arabidopsis," Science, 258:1353-1355 (1992).
	Atsmon <i>et al.</i> , "Castor," in <i>Oil Crops of the World</i> , Robbelen, G., Downey, K.R., and Ashri, A., eds. McGraw-Hill, New York pp. 438-447 (1989).
	Bafor <i>et al.</i> , "Ricinoleic acid biosynthesis and triacylglycerol assembly in microsomal preparations from developing castor-bean," Biochem., 280:507-514 (1991).
	Battay <i>et al.</i> , "A comparison of the metabolic fate of fatty acids of different chain lengths in developing oilseeds," Plant Physiol., 90:835-840 (1989).
	Bechtold <i>et al.</i> , "In Planta Agrobacterium mediated gene transfer by infiltration of adult Arabidopsis thaliana plants," C.R. Acad. Sci. Paris, 316:1194-1199 (1993).
	Beltz <i>et al.</i> , "Isolation of multigene families and determination of homologies by filter hybridization methods," Methods in Enzymology, 100:266-285 (1983).
	Bray <i>et al.</i> , "Expression of the .beta.-conglycinin in seeds of transgenic plants," Planta, 172:364-370 (1987).
	Browse <i>et al.</i> , "Glycerolipid synthesis: biochemistry and regulation," Ann. Rev. Plant Physiol. Plant Mol. Biol., 42:467-506 (1991).
	Canvin, "Formation of oil in the seed of <i>Ricinus communis</i> L.," Can. J. Biochem. Physiol., 41:1879-1885 (1963).
	Ditta <i>et al.</i> , "Broad host range DNA cloning system for gram-negative bacteria: Construction of a gene bank of <i>Phizobium meliloti</i> ," Proc. Natl. Acad. Sci. USA, 77:7347-7351 (1980).
	Fox <i>et al.</i> , "Stearoyl-acyl carrier protein Δ^9 desaturase from <i>Ricinus communis</i> is a diiron-oxo protein," Proc. Natl. Acad. Sci., 90:2486-2490 (1993).
	Galliard <i>et al.</i> , "Fat metabolism in higher plants XXX. Enzymatic synthesis of ricinoleic acid by a microsomal preparation from developing <i>Ricinus communis</i> seeds," J. Biol. Chem., 241:5806-5812 (1966).

Examiner

Date Considered

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INFORMATION DISCLOSURE CITATION

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PTO Form 1449

Attorney Docket No. 056100-5005-01

Application No. 10/820,202

Applicants: Pierre Broun *et al.*

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Group Art Unit: 1638

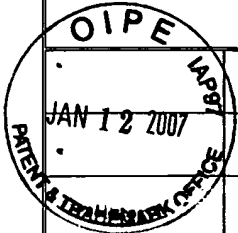
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

- Gould *et al.*, "Use of the DNA polymerase chain reaction for homology probing," Proc. Natl. Acad. Sci. USA, 86:1934-1938 (1989).
- Greenwood *et al.*, "Seed development in *Ricinus communis* (castor bean) I. Descriptive morphology," Can. J. Bot., 60:1751-1760 (1982).
- Gunstone *et al.*, *The Lipid Handbook*, Chapman and Hall, London, Chapters 1.9, pp. 19-20 and 3.3.5, pp. 57-58 (1986).
- Howling *et al.*, "The specificity of fatty acid desaturases and hydroxylases: the dehydrogenation and hydroxylation of monoenoic acids," Biochim. Biophys. Acta, 260:10-19 (1972).
- Huynh *et al.*, "Constructing and screening cDNA libraries in .lambda.gt10 and .lambda.gt11, in DNA Cloning, vol. 1: A Practical Approach," (ed) D.M. Glover, IRL Press, Washington, D.C., pp. 49-77 (1985).
- Iba *et al.*, "A gene encoding a chloroplast omega-3 fatty acid desaturase complements alterations in fatty acid desaturation and chloroplast copy number of the fad7 mutant of *Arabidopsis thaliana*," J. Biol. Chem., 268:24099-24105 (1993).
- James *et al.*, "The biosynthesis of ricinoleic acid," Biochem. J., 95:448-452 (1965).
- Kearns *et al.*, "The role of cytochrome b5 in delta desaturation of oleic acid by microsomes of safflower (*Carthamus tinctorius* L.)," Arch. Biochem. Biophys., 284:431-436 (1991).
- Knuztou *et al.*, "Modification of Brassica seed oil by antisense expression of a stearyl-acyl carrier protein desaturase gene," Proc. Natl. Acad. Sci. USA, 89:2624-2628 (1992).
- Kok *et al.*, "The *Pseudomonas oleovorans* alkane hydroxylase gene: sequence and expression," J. Biol. Chem., 264:5435-5441 (1989).
- Konez *et al.*, "The promoter of T_L-DNA gene 5 controls the tissue-specific expression of chimetic tenes carried by a novel type of *Agrobacterium* binary vector," Mol. Gen. Genet., 204:383-396 (1986).
- Kren *et al.*, "Occurrence of ricinoleic acid in submerged cultures of various *Claviceps sp.*," Experientia, 41:1476-1477 (1985).
- Miquel *et al.*, "Arabidopsis Mutants Deficient in Polyunsaturated Fatty Acid Synthesis," J. Biol. Chem., 267:1502-1509 (1992).
- Moreau *et al.*, "Recent studies of the enzymic synthesis of ricinoleic acid by developing castor beans," Plant Physiol., 67:672-676 (1981).
- Morris *et al.*, Biochem. J., "The biosynthesis of ricinoleic acid by *Claviceps purpurea*," 100:29c-30c (1966).
- Morris, "The Mechanism of ricinoleic acid biosynthesis in *Ricinus communis* seeds," Biochem. Biophys. Res. Commun., 29:311-315 (1967).
- Morris, "Mechanisms and stereochemistry in fatty acid metabolism," Biochem. J., 118:681-693 (1970).
- Newman *et al.*, "DST sequences, highly conserved among plant SAUR genes, target reporter transcripts for rapid decay in tobacco," Plant Cell, 5:701-714 (1993).
- Okuley *et al.*, "Arabidopsis FAD2 Gene Encodes the Enzyme that is Essential for Polyunsaturated Lipid Synthesis," Plant Cell 6:147-158 (1994).
- Ooms *et al.*, "Octopine Ti-plasmid deletion mutants of *Agrobacterium tumefaciens* with emphasis on the right side of the T-region," Plasmid, 7:15-29 (1982).
- Panaccione *et al.*, "Characterization of two divergent B-tubulin genes from *Colletotrichum graminicola*," Gene, 86:163-170 (1990).
- Prasad *et al.*, "Phospholipids of palash (*Butea monosperma*), papaya (*Carica papaya*), jangli badam (*Sterculia foetida*), coriander (*Coriandrum sativum*), and carrot (*Daucus carota*) seeds," J. Am. Oil Chem. Soc., 64:1424-1427 (1987).

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
		Puissant <i>et al.</i> , "An improvement of the single-step method of RNA isolation by acid guanidinium thiocyanate-phenol-chloroform extraction," <i>BioTechniques</i> , 8:148-149 (1990).	
		Sambrook <i>et al.</i> , <i>Molecular Cloning: a Laboratory Manual</i> , 2n ed., Cold Spring Harbor Laboratory Press (1989).	
		Schmidt <i>et al.</i> , "New in vitro and in vivo evidence for lipid-linked desaturation in plants," in <i>Biochemistry and Molecular Biology of Membrane and Storage Lipids of Plants</i> , eds. N. Murata and C.R. Somerville, American Society of Plant Physiologists, pp. 40-49 (1993).	
		Smith <i>et al.</i> , "Evidence for cytochrome b ₅ as an electron donor in ricinoleic acid biosynthesis in microsomal preparations from developing castor bean (<i>Ricinus communis</i> L.)," <i>Biochem. J.</i> , 287:141-144 (1992).	
		Smith, "Unusual seed oils and their fatty acids," in <i>Fatty Acids</i> , Pryde E.H., Ed., American Oil Chemists' Society, Champaign, 2nd ed., pp. 29-47 (1985).	
		Suzuki <i>et al.</i> , "Primary structure of xylene monooxygenase: similarities to and differences from the alkane hydroxylation system," <i>J. Bacteriol.</i> , 173:1690-1695 (1991).	
		Thiede <i>et al.</i> , "Construction and Sequence of cDNA for Rat Liver Stearyl Coenzyme A Desaturase," <i>J. Biol. Chem.</i> , 261:13230-13235 (1986).	
		van de Loo <i>et al.</i> , "An Oleate 12-hydroxylase from <i>Ricinus comunis</i> L. is a fatty acyl saturase homolog," <i>Proc. Natl. Acad. Sci. USA</i> , July 18, 1995; 92(15):6743-6747.	
		van de Loo <i>et al.</i> , <i>Lipid Metabolism in Plants</i> , T.S. Moore Jr., Ed., CRC Press, Boca Raton, pp. 91-126 (1993).	
		van de Loo <i>et al.</i> , "A plastid omega-3 desaturase from castor (<i>Ricinus communis</i> L.)," <i>Plant Physiol.</i> , 105:443-444 (1994).	
		von Heijne, "Signal Sequences," <i>J. Mol. Biol.</i> , 184:99-105 (1985).	
		Yadav <i>et al.</i> , "Cloning of higher plant 03 fatty acid desaturases," <i>Plant Physiol.</i> , 103:467-476 (1993).	
		Topfer <i>et al.</i> , "Modification of plant lipid synthesis," <i>Science</i> 268: 681-686 (1995).	
		Carlson <i>et al.</i> , "Analysis of Oil and Meat from <i>Lesquerella fendleri</i> Seed," <i>Am. Oil. Chem. Soc.</i> 67:495-498 (1990).	
		Broun <i>et al.</i> , "Catalytic Plasticity of Fatty Acid Modification Enzymes Underlying Chemical Diversity of Plant Lipids," <i>Science</i> 282:1315-1317 (1998).	
		Broun <i>et al.</i> , "A bifunctional oleate 12-hydroxylase: desaturase from <i>Lesquerella fendleri</i> ," <i>Plant J.</i> 13(2):201-210 (1998)	
		Broun <i>et al.</i> , "Accumulation of ricinoleic, lesquerolic, and densipolic acids in seeds of transgenic <i>Arabidopsis</i> plants that express a fatty acyl hydroxylase cDNA from castor bean," <i>Plant Physiol.</i> 113: 933-942 (1997).	
		Cahoon <i>et al.</i> , "Redesign of soluble fatty acid desaturase from plants for altered substrate specificity and double bond position," <i>Proc. Natl. Acad. Sci. USA</i> 94: 4872-4877 (1997).	
	De Luca, "Molecular characterization of secondary metabolis pathways," <i>Biotech News and Information</i> 5:225N-229N (1997).		
	Shanklin <i>et al.</i> , "Eight histidine residues are catalytically essential in a membrane-associated iron enzyme, stearyl-CoA desaturase, and are conserved in alkane hydroxylase and xylene monooxygenase," 1994, <i>Biochem.</i> 33: 12787-12794.		
	Jones <i>et al.</i> , "Effective vectors for transformation, expression of heterologous genes, and assaying transposon excision in transgenic plants," <i>Transgenic Res.</i> , 1:285-297 (1992).		
	Matzke <i>et al.</i> , "How and why do plants inactivate homologous (Trans) genes?" <i>Plant Physiol.</i> 107: 679-685 (1995).		
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